

1. Record Nr.	UNINA9910495248303321
Autore	Yagi Atsushi <1951->
Titolo	Abstract parabolic evolution equations and Lojasiewicz-Simon inequality . II Applications // Atsushi Yagi
Pubbl/distr/stampa	2021 Gateway East, Singapore : , : Springer, , [2021]
ISBN	981-16-2663-4
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (IX, 128 p. 607 illus.)
Collana	SpringerBriefs in mathematics
Disciplina	515.353
Soggetti	Anàlisi matemàtica Anàlisi funcional Teoria de la mesura Evolution equations Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Preliminaries -- Review of Abstract Results -- Parabolic Equations -- Epitaxial Growth Model -- Chemotaxis Model.
Sommario/riassunto	This second volume continues the study on asymptotic convergence of global solutions of parabolic equations to stationary solutions by utilizing the theory of abstract parabolic evolution equations and the ojasiewicz–Simon gradient inequality. In the first volume of the same title, after setting the abstract frameworks of arguments, a general convergence theorem was proved under the four structural assumptions of critical condition, Lyapunov function, angle condition, and gradient inequality. In this volume, with those abstract results reviewed briefly, their applications to concrete parabolic equations are described. Chapter 3 presents a discussion of semilinear parabolic equations of second order in general n-dimensional spaces, and Chapter 4 is devoted to treating epitaxial growth equations of fourth order, which incorporate general roughening functions. In Chapter 5 consideration is given to the Keller–Segel equations in one-, two-, and three-dimensional spaces. Some of these results had already been obtained and published by the author in collaboration with his

colleagues. However, by means of the abstract theory described in the first volume, those results can be extended much more. Readers of this monograph should have a standard-level knowledge of functional analysis and of function spaces. Familiarity with functional analytic methods for partial differential equations is also assumed.
